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ABSTRACT

The Minority Assistance Program (MAP) was established at the University of South Carolina in 1986 to help black entering freshmen become integrated into campus life. Specific objectives are improving academic achievement and retention rates of minority students. This comparative study assessed whether or not the program is accomplishing these goals for 1987 and 1988 entering black freshmen classes. The two cohorts, both of which included MAP participants and non-participants, were followed from entry through spring 1990. A regression analysis and other data analysis techniques were used to determine the statistical significance of differences observed between MAP participants and non-participants. Results indicate that MAP participants had significantly higher grade point averages than do non-participants, and were retained each semester at higher rates, although significant differences in retention are only seen for the 1988 cohort. Eleven tables present study findings. (Contains 83 references.) (SLD)

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A STUDY OF ACADEMIC PERFORMANCE AND RETENTION OF MINORITY ASSISTANCE PEER (MAP) PROGRAM PARTICIPANTS AND NON-PARTICIPANTS AT THE UNIVERSITY OF SOUTH CAROLINA

by

Glover E. Hopson

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A STUDY OF ACADEMIC PERFORMANCE AND RETENTION OF MINORITY ASSISTANCE PEER (MAP) PROGRAM PARTICIPANTS AND NON-PARTICIPANTS AT THE UNIVERSITY OF SOUTH CAROLINA

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ABSTRACT

A Study of Academic Performance and Retention of Minority Assistance Peer (MAP) Program Participants and Nonparticipants at the University of South Carolina

Glover E. Hopson

The Minority Assistance Peer (MAP) Program was established in 1986 at the University of South Carolina-Columbia to assist black entering freshmen to become integrated into campus life. Specific objectives of the program include improving the academic performance and retention rates of minority students. The efficacy of the MAP Program in meeting these goals had not been previously evaluated.

The purpose of this study was to determine if black students who participate in the MAP Program have higher levels of academic performance and return to school at higher rates than nonparticipants. This purpose was pursued through a comparative study of the 1987 and 1988 entering black freshman classes at the University of South Carolina-Columbia.

Data were collected from institutional records of all first-time baccalaureate degree-seeking black freshmen who

entered the University during the fall semesters 1987 and 1988. The computer records for these two cohorts were retrieved from data history files and followed from fall 1987 through spring 1990.

Regression analysis and other appropriate data analysis techniques were used to determine the statistical significance of observed differences between the two study groups. A t-test was used to determine if there were significant differences between the two group means for academic performance. Chi-square analysis was used to determine the significance of differences between group proportions for retention rates. The .05 level of significance was used throughout the study.

The study revealed positive results regarding the research questions posed in this study. MAP participants had significantly higher GPAs than nonparticipants. MAP participants were also retained each semester at higher rates than nonparticipants. Significant differences in retention rates between participants and nonparticipants were obtained only for the 1988 cohort. Predicated grade point average (PGPA), MAP participation, University 101, and sex were associated with academic performance and retention. However, these factors only explained a small amount of the variance.

CHAPTER ONE

INTRODUCTION

Black students are attending traditionally white colleges and universities in greater numbers than they are attending historically black institutions. In fact, two-thirds of all black college students in this country attend predominantly white postsecondary institutions (Fleming, 1984). However, the accessibility to predominantly white schools or the schools' openness to admit blacks does not, in and of itself, guarantee black student success. Neither does it guarantee their involvement in campus life, their cognitive or affective growth and development, their adjustment, or their acceptance by faculty and other students. Recruiting and admitting blacks does, however, improve the image of the institution as far as federal guidelines are concerned (Willie & McCord, 1972).

There are social adjustment problems for a great number of black students who attend white institutions. From most reports, life for the majority of black students at white institutions is not utopia. The April 26, 1989, edition of the Chronicle of Higher Education is replete with accounts of social adjustment problems of black students on predominantly white campuses. For students, regardless of race, to attain academic success in colleges and universities, they must be provided with what Fleming (1984) calls "intentional interpersonal support systems"

(p. 12). Included in this myriad of institutional responsibilities are approaches such as peer counseling programs, student organizations, mentor programs, and friendly relations with peers, faculty, staff, and administrators. In her description of such systems, Fleming confirms a well known premise that positive interpersonal supports constitute a precondition for retention, and cognitive growth and development (Astin, 1982).

Intentional interpersonal support systems can be divided into two groups: formal and informal. Formal approaches include institutionalized programs and services which are primarily designed to assist students in their adjustment, persistence, and retention. Peer counseling programs are examples of formal intentional interpersonal support systems or approaches. Informal approaches include spontaneous or non-spontaneous supportive relationships between student and faculty, student and student, student and administrator, and/or student and organizations.

Formal Peer Counseling Approaches

One of the most popular innovations reported in student personnel work in colleges and universities is the establishment of peer counseling services. The involvement of undergraduate students as peer counselors on campus represents a serious effort by educators to improve the quality and quantity of services to students. As a result, new learning opportunities for students are developed and

the limited resources of professional staff are supplemented.

Several studies have been conducted on the effect of peer counseling interventions designed to promote academic success. In these studies, retention, campus involvement, college adjustment, and academic performance have been used as indices of this goal. Lewis (1986), for example, described a minority retention program that provides academic and social support for black freshmen by referral to appropriate campus personnel or resources for assistance with academic, financial, personal, social, and career planning problems. Peer counseling, faculty mentors, nonacademic staff participation, and social events were used to facilitate student adjustment and persistence. The freshmen who participated in the program adjusted and persisted at significant levels. However, there was no comparison group.

Benson (1975) investigated the relationships and differences between minority students who utilized and those who had not utilized the services of peer counselors at a predominantly white university. He concluded that the retention of minority students who utilized peer counseling was greater than the retention of minority students who did not utilize peer counseling. However, the differences or relationships were not significant (at the .05 level) between age, grade point average, place of residence, and retention.

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In another study, McElroy (1975) studied the impact of peer counseling upon the attrition rate of black college freshmen. He compared counseled and non-counseled (control) groups to determine the significance of the difference between mean grade point average, sense of direction, attitude toward college, and attrition rate. Male and female groups were also compared. McElroy found that the counseled group achieved significantly higher grades and realized a significantly lower attrition rate than the freshmen in the non-counseled group.

Informal Approaches

Social scientists indicate that social adjustment is a crucial issue for the intellectual development of black students on predominantly white campuses (Fleming, 1984; Willie & McCord, 1972). Further, developmental theorists suggest that students need both intellectual and social development during the college years in order to gain a sense of direction and to put the college experience to constructive use (Chickering, 1981; Erikson, 1968; Perry, 1981).

Tinto (1987) cites academic and social integration as two variables which weigh heavily in student retention. According to Tinto's research, student-faculty and student-student contact is important especially the first year in school. He argues that it makes no difference what the characteristics of the students are--the integration into the college community is vital. Further data suggest that

students who are involved with others in a caring way are involved in their own learning and tend to remain in school (Astin, 1975; Gordon & Grites, 1984).

Astin (1985) and the final report of the Study Group on the Conditions of Excellence in American Higher Education, Involvement In Learning (1984) suggest that students learn and persist by becoming involved with their school and peers. Astin asserts that the greater the student's involvement in collegiate activities, the greater the learning, retention, and personal growth of that student. Additional data from the South Carolina State Department of Education (1977) suggest that involved students have a smaller attrition rate than those students who are not involved. Levels of involvement in the college environment, extent of interpersonal support systems, and degree of campus integration play a vital role in a student's "fit" in the college environment, and his or her cognitive growth and development. Therefore, one can infer that the students who are the most involved in student life, academics, and personal growth, are the students who perform better academically and who are most likely to be retained at the highest rates in college (Astin, 1985; Fleming, 1984; and Tinto, 1987).

The Minority Assistance Peer (MAP) Program

The Minority Assistance Peer (MAP) Program is another formal approach which is actually a special case of peer counseling. It was established in 1986 at the University

of South Carolina-Columbia as a direct response to the institutional need to increase the minority student population and to give the minority student a chance to survive. In a time of federal and state measures of accountability to ensure minority representation, the MAP program represented an effort to provide support services to minority students and make the institution more responsive to the minority freshmen who needed assistance the most during their first year at the university (Johnson, 1988).

The MAP Program is a peer advisement program that provides orientation and support to black freshmen during their first year at the University of South Carolina. The program was designed to assist freshmen to become integrated into campus life. Specific objectives of the program include improving retention rates and enhancing the academic performance of minority students (R. Johnson, personal communication, October 14, 1988). The functions of the MAP Program are to provide black incoming freshmen with a close friend or peer helper, to assist with the transition from high school to college, and to help black students adjust to the university milieu.

The MAP Program is a volunteer program in which students are asked via mail after acceptance for admission to indicate whether or not they want to participate in the program. There are no other selection criteria for student participation. An upperclass student is assigned to a

freshman participant who has the same or similar major.

The MAP Program offers early intervention and assistance during the critical freshman year to ensure that participants are given a chance to compete developmentally and academically during their collegiate careers. The program provides a volunteer upperclassman or peer advisor to establish a close friendship with minority freshmen, to encourage the pursuit of academic excellence, to provide an introduction to available campus resources, to be a referral agent to those services, and to assist students in solving school-related problems.

Although the program has been in operation for four years, it has not been formally evaluated. The only focus of assessment has been an annual evaluation of the counselors by the counselees. This information has been used to determine whether or not a counselor should continue working with the program.

The distinction between MAP participation and non-participation is a crucial element in this study. Participation in the MAP Program is defined as enrollment in the program and being assigned a counselor during the fall semesters 1987 and 1988. Nonparticipation is defined as not enrolling in the MAP Program during the fall semesters 1987 and 1988.

The Statement of the Problem

The purpose of this study is to investigate if black students who participate in the MAP Program achieve higher

levels of academic performance and attain higher retention rates than do nonparticipants. Specifically, the study is designed to answer three questions:

1. Is the academic performance of MAP participants different from that of nonparticipants?
2. Are the retention rates of MAP participants different from those of nonparticipants?
3. What is the relationship of academic performance and retention rates with MAP participation controlling for differences in sex, predicted grade point average (PGPA), and enrollment in the University 101 freshman seminar course?

Significance of the Study

For the past four years, the University of South Carolina-Columbia has operated a Minority Assistance Peer (MAP) Program to assist black entering students with their academic and social adjustment. Despite the acclaim of the program, there has been no empirical investigation to suggest whether or not the MAP Program impacts black student success in a positive way. More specifically, neither the performance of student participants nor the effectiveness of the program has been assessed.

Successful academic performance and early adjustment to the college milieu continue to be great challenges for black students at predominantly white institutions (Fleming, 1984). It would seem reasonable that if black students who participated in the MAP Program earned higher

grades, became more involved in campus life, and returned to school in greater numbers for their sophomore, junior, and senior years than similarly qualified black students who did not participate in the MAP Program, that the changes could be associated with the participation in the MAP program. Also, the results, if positive, may be useful in attracting other students to participate in the program.

Moreover, the MAP Program might qualify for more funding from the University and the South Carolina Commission of Higher Education if evidence were presented to confirm the program's success. Significant improvement in black students' involvement in campus life, in their scholastic performance, and in their persistence rates as a result of MAP Program participation would greatly enhance chances for more institutional and outside program support. Further, the cost to the university for facilities and salaries for peer counselors would be considerably less than that of hiring new full-time professionals.

Finally, other academic institutions, especially predominantly white institutions, would also be interested in the data provided by this research project, since most colleges and universities have experienced increased operating costs, the need for more support programs and services, increased numbers of minority students, and a dropout problem. Furthermore, research studies on black student-to-student counseling at predominantly white institutions are scarce. Therefore, if peer counselors at

USC are effective, their use can be substituted for salaried professionals at a great savings. Any educational practice that might increase achievement and performance at little or no additional cost is certainly worthy of being investigated.

Delimitations of the Study

This comparative study will be restricted to first time entering undergraduate minority freshmen who enrolled full-time at the University of South Carolina-Columbia in fall semester 1987 and fall semester 1988. The use of secondary analysis of information already available in the University's database to address the research questions also imposes a constraint on the type of study that can be conducted and questions that can be answered.

Furthermore, variables which may be of potential interest and value to this investigation (such as residential classification, socioeconomic status, student-faculty interaction, honors program involvement, and extracurricular involvement) are outside the scope of this study and will not be explored. Some possible constraints to this study include the potential mitigating effects of sex, PGPA, and enrollment in University 101 (the University of South Carolina's nationally acclaimed freshman seminar course). Regression analysis will be used to control for these intervening variables.

This study will not attempt to identify or assess academic performance rates or retention rates for other

than black students. The study is limited to determining whether differences in academic performance and retention rates can be identified between groups participating and not participating in the MAP Program during the fall semesters of 1987 and 1988 of their freshmen year.

Summary

This chapter has provided an introduction to the study of the difficulties black students face when they attend predominantly white institutions in America. It has also referenced formal and informal peer counseling approaches which address some of the needs of black students at these institutions. The Minority Assistant Peer (MAP) Program at the University of South Carolina-Columbia was described as a special formal peer counseling approach that was established to promote significant differences in academic performance and retention rates of black entering freshmen. The purpose of this study was to investigate if there were differences in academic performance and retention rates of black entering students related to MAP participation.

This chapter also included a statement of the problem studied, its significance to the field of educational administration, and the delimitations or constraints which were applied. The following chapters will present a review of the related literature, a description of the procedures used to conduct this study, a presentation and analysis of the data collected, and a summary of results, conclusions and recommendations for future research.

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

The research problem under investigation in this study was designed to determine if Minority Assistance Peer (MAP) Program participants achieved higher levels of academic performance and attained higher retention rates than non-participants at the University of South Carolina-Columbia. This chapter reviews the general literature related to academic performance and retention. A discussion of academic and retention factors as well as the interaction between these two variables will be presented. This survey of the literature will also present general issues related to black students who attend predominantly white universities. Finally, this section will present selected published and unpublished materials on black peer counseling programs at predominantly white universities.

Academic Performance

Since objectives of colleges and universities are to educate and graduate the students they admit, academic failure must be viewed as a failure on the part of the institution as well as on the part of the individual student. When a student fails on purely academic grounds, he certifies inadequate admissions procedures or inadequate instruction (Summerskill, 1962).

Regardless of the student's age, sex, economic status

or hometown, the central requirement for a college degree is the successful completion of courses prescribed by the college. Academic ability enhances the probability of college completion. A student must have sufficient prior training and ability to be successful in the college environment (Summerskill, 1962).

High school GPA and aptitude test scores are two measures of pre-college academic ability which provide evidence of college academic ability. High school GPA or past grade performance is the best predictor of success in college because it corresponds closely to the individual's ability to achieve within an educational setting (Astin, 1975; Tinto, 1975). Pantages and Creedon (1978) asserted that the relationship between high school GPA, and class standing seldom achieves correlations above the .50 level. Nonetheless, they cautioned that these variables are the strongest single-variable predictors of academic performance presently available.

Measures of ability, as reflected by scores on a standardized test and as demonstrated by high-school grade performance are measures of different aspects of academic competence. Of the two, past grade performance tends to be the better predictor of success in college as it corresponds more closely to the individual's ability to achieve within an educational setting (Tinto, 1975).

However, several researchers have indicated that students' academic success is influenced by both cognitive

and non-cognitive factors. According to Tracey and Sedlacek (1984), the cognitive factors (i.e. high school grade point average, class rank, and standardized test scores) are more important predictors of academic success. Although Astin (1982) found that persistence was positively correlated with academic performance in high school and college admission test scores, he argued that the student's high school GPA is the single most important predictor of academic performance in college. Consistent with Astin's findings, Demitroff (1974) asserted that academic factors are the most reliable predictors of success in colleges and universities, that they are the only variables that can usefully be so employed, and that adding other variables would not greatly improve prediction.

Ponder (1977) suggested that average grade in high school tends to be higher for black freshmen than for white freshmen at the University of South Carolina (USC). Concomitantly, the distribution of first semester college grades reported by freshmen at USC tended to be higher for blacks than for whites.

Endo and Harpel (1982) conclude that quality of student effort is more closely related to academic outcomes than are the background factors which mark student entry into college. Though background attributes may be useful indicators of student potential to succeed, they do not tap the orientation and activities of students which transform potential into learning outcomes.

Tinto (1975) found that an individual's academic integration could be measured in terms of both his grade performance and his intellectual development during the college years. He concluded that grades tend to be the most visible and extrinsic form of reward in the academic system of the college, but intellectual development represents a more intrinsic form of reward.

A majority of studies focusing on scholastic aptitude tests has found a significant difference between college success and failure. Iffert (1958) concluded that the percentages seem to show that standing in high school graduating class is a much better indicator of the probability of graduation than standing in the placement tests. Similarly, Pantages and Creedon (1978) found scholastic aptitude to be only half as stable a predictor as high school rank. They concluded that high school grades, rank, and scholastic aptitude measures are effective in predicting college achievement. They also indicated that good grades are effective reinforcers that maintain and strengthen student academic performance.

Pascarella and Terenzini (1980) investigated freshman perceptions and experiences of the academic and non-academic aspects of college associated with varying amounts of informal contact with faculty. They found that academic achievement, as measured by cumulative grade point average, contributes little to discrimination among high, moderate or low student interactors with faculty.

Their findings indicated that high interactors ranked faculty members significantly higher as a source of positive influence on both their intellectual and personal development. However, no statistically reliable differences were noted between high, moderate and low interactors with regard to academic aptitude, personality dimensions or initial expectations of the college climate (Pascarella & Terenzini, 1980).

In summary, such academic performance variables as high school grade point average and aptitude test scores are two measures of pre-college academic ability which provide evidence of academic ability in college. High school rank is a better predictor of the probability of graduation than standing in placement tests. Thus, high school grades, rank, and scholastic aptitude measures were found to be most effective in predicting college achievement.

Retention

Student retention and student satisfaction have become critical issues for campus officials in recent years. Many years ago, retention data were only the concern of student affairs personnel who cared about the relationship between retention and the quality of campus life. Initially, the demographic decline in enrollment prompted institutional concern. The registrar and admissions office staff were primarily concerned with recruitment goals. More recently, however, these issues have emerged as a larger public

debate of institutional performance and student outcome. Currently, many public officials and college and university administrators look at retention rates and satisfaction data as one set of key indicators about something broadly defined as "institutional effectiveness" (Astin, Korn, & Green, 1987a).

Astin et al. (1987a) found that students leave before graduating from public and private institutions for a number of reasons. Among the reasons students report for leaving private institutions are the desire to change to a college with a better social life, to a college that offers a wider variety of courses, or to a college with a better academic reputation. Students who leave public institutions prior to graduation are more likely to report that they left for academic reasons. These findings are consistent with other findings from a follow-up study on satisfaction conducted by Astin, Korn, & Green (1987b). They found that poor academic performance at public institutions and dissatisfaction with social life at private institutions are reasons why students drop out. The retention rate of a college will be greatly affected by the kinds of students it recruits, over and above the institutional experience itself.

Astin et al. (1987a) provide national data on retention and satisfaction. Their findings indicate that there was a substantial decline in the number of students completing college in four years. However, they suggest

that this decline in completion rates for the four-year degree, may, in part, reflect the extension of the undergraduate experience. That is, a growing proportion of students are taking additional time to complete degree requirements.

While there are other possible explanations for the decline in degree completion rates, the relatively poor academic preparation of today's students may be one of the major factors. As in the past, the most important freshman predictors of retention are the students' high school grades and admission test scores. Lenning, Beal, and Sauer (1980) assert that the previous academic achievements and the educational aspirations of students are key factors in predicting retention.

Furthermore, according to Tinto's (1987) research findings, student-faculty and student-student contact is especially important in the first year of school. He argues that it makes no difference what the characteristics of the students are--the integration into the college community is vital. Other data suggest that students who are involved with others in a caring way and involved in their own learning tend to remain in school (Astin, 1983; Gordon & Grites, 1984).

Tinto (1987) cites academic and social integration as two variables which weigh heavily on student retention. He proposes a theory of departure from institutions of higher education and he makes a distinction between institutional

departure and system departure. The latter indicates dropping out from higher education in general whereas the former refers to institutional drop-out. Further, Tinto reviews the causes of departures. At the individual level, he addresses adjustment to the social and intellectual transition, difficulty in meeting academic standards, incongruence (insufficient personal interaction), and isolation.

National studies report that about 40 percent of freshmen entering college will never graduate from college, approximately 20 percent will delay the attainment of their degrees, and about 40 percent will graduate in four years (Cope, 1978). While gross national retention rates have remained constant over the years, there are substantially different rates for different types of institutions. Almost three quarters of students completing their sophomore year without interruption complete all four years without interruption (Ramist, 1981). Almost 30 percent withdraw during the freshman year and before the sophomore year.

Not all students who enter college are equally equipped (academically and socially) to complete a given course of study. Nor are all students with equal abilities and skills equally motivated to complete a course of study. Some students simply do not care enough to finish. It is obvious that not all of these differences should be focus a of concern and targets for institutional policy. Higher

education is not for everyone (Tinto, 1985).

Several studies conducted by University of South Carolina (USC) researchers have found that the university has retained and graduated blacks at higher levels than their cohorts (Fidler & Ponder, 1977; Shanley, 1987; Welsh, Conway & West, 1987). Among the key factors cited by Welsh et al. (1987) that account for these startling conclusions are: First, black enrollment at USC is of sufficient size to allow for a satisfying social life and to permit formation of black support groups. Second, black students have access to leadership positions in student organizations. Third, most black students live on campus and have a black roommate. Fourth, they participate in black student activities, have contact with black faculty and staff and enroll in Black Studies courses. Fifth, black students enjoy a campus climate of acceptance which is relatively free of racial discrimination especially in the classroom. Finally, blacks enroll in University 101, a course designed to ease the transition from high school to college and into the processes of campus life (Welsh et al., 1987).

Student involvement in campus life is a key factor in student retention. Students who become involved in the life of the institution are more likely to persist (Astin, 1982; Lewis, 1986). Also, student involvement in campus life, especially in leadership roles, challenges students' intellects and stimulates their interests in classroom

affairs (Fleming, 1984; Lewis, 1986). Therefore, the literature supports the premise that students who establish close relationships with other persons show greater persistence in college.

In summary, some of the same predictors of academic performance predict retention while academic performance, itself, is one of the strongest predictors of retention. Research findings on several retention variables were cited. Academic factors were found to represent the strongest prediction of retention, but the correlation was no more than .50. Student involvement in campus life is a major factor in student retention. In addition, academic and social integration clearly impact student retention.

Summerskill (1962) cautioned, however, that poor grades are a far more stable predictor of attrition than good grades are a predictor of retention, since successful students drop out in larger numbers than expected. Therefore, the main factors predicting retention are the level of student's previous academic achievements and their educational aspirations (Lenning et al., 1980).

Interactions Between Academic Performance Variables and Retention

Several investigations of scholastic aptitude test scores in relation to attrition have been conducted (Freehill, 1954; Hanks, 1954; Pattishall & Banghart, 1957; and Ramist, 1981). Average scholastic aptitude scores were found to be lower for dropouts than for graduates in most

studies. These studies demonstrate that dropouts had significantly lower scholastic aptitude test scores than graduates.

Next, a significant relationship exists between college grades and attrition. Summerskill (1962) found that one out of three dropouts occurred for academic reasons. Academic failure was typically cited as the single leading cause of dropouts in most cases. The relationship between grades and attrition appears to be continuous in that the probability of dropping out varies immensely with grade point average throughout the whole distribution of grades at a given college. Prediction of dropouts is better at the lower end of the grade scale, i.e., students with poor grades are more likely to drop out while students with good or excellent grades may drop out. Poor or failing grades at the beginning of a college career are highly predictive of dropouts (Summerskill, 1962).

Although up to one third of the college dropouts are due to poor grades or academic failure, it is important to realize that the majority of students leave college for other than academic reasons. Furthermore, among dropouts that college records ascribe to academic failure, there are undoubtedly many cases in which the underlying problems are psychological, parental, social or financial. In such cases academic failure may serve the student as a useful device for taking leave of school when the true underlying problems are unresolved. In general, then, the attrition

problems that predominate in colleges involve the students' failure to meet psychological, sociological, or economic demands rather than the strictly academic demands of the college environment (Ramist, 1981; Summerskill, 1962).

Good grades are extremely effective reinforcers that maintain and strengthen a student's academic performance and decrease the chances of dropping out. Once a student has enrolled in college, first semester grades are an accurate predictor of attrition when grades are low, but high grades do not guarantee persistence (Pantages & Creedon, 1978; Summerskill, 1962). If all students with unsatisfactory grades are excluded, those who withdraw generally show both higher grade performance and higher levels of intellectual development than do the average persisters (Tinto, 1975). Poor grades are a far more stable predictor of retention since successful students drop out in larger numbers than would be expected.

Furthermore, the high school record, itself, which consists of high school grade point average and high school class rank are the best predictors of academic performance and persistence (Astin, 1975; Fetters, 1977; Pantages & Creedon, 1978; Summerskill, 1962). The correlations of high school record and persistence have ranged from 0.25 to 0.50. The SAT is another variable that has a positive relationship with academic performance and persistence. Freshman year dropout rates range from 9% for those scoring 600 or above on the SAT math sections to 27% for those

scoring below 300. After controlling for high school record, the additional predictive strength is only moderate (Ramist, 1981).

College Board Achievement Tests indicate similar predictive values. At selective colleges (SAT-verbal score average of at least 480), the freshman-year dropout rate of students who merely took an Achievement Test is half that of those who did not take an Achievement Test (Ramist, 1981). Also, the higher the scores, the less likely is the student to drop out.

The high school program is yet another academic variable that affects academic performance and persistence. A college preparatory program is a major factor in predicting retention (Fetters, 1977; Peng & Fetters, 1978). Of course, this may be because this type of program both attracts students who are more likely to persist and because it prepares students to be effective in college.

Performance in college is a variable that can be closely related to attrition. Most studies have found a very significant relationship between attrition and performance in college even after other variables are controlled (Cope, 1978; Pantages & Creedon, 1978; Pascarella & Terenzini, 1977; Summerskill, 1962).

A consistent relationship exists between admissions selectivity and attrition rates. Institutions admitting the most able students - SAT of 1100 or above - experience the smallest attrition rates. Selective public

universities have an average of 22 percent freshman-to-sophomore attrition rate (Noel, 1985). It is possible to reduce high attrition rates by simply revising college admissions requirements with respect to secondary school grades. It is also possible that attrition in college can be effectively reduced by changes in educational policy and practice at the secondary level.

Moreover, the caliber of students significantly affects graduation rates. Nine out of 10 freshmen who ranked below the 20th percentile in their high school class became dropouts and only one out of three will receive a degree (Eckland, 1964). Ability is the key factor differentiating dropouts and persisters when grouped by sex. Low ability males are three times more likely to drop out than low ability females (MacMillan & Kester, 1973). However, ability tests alone are not useful in any practical sense for predicting who will drop out. It is virtually impossible to identify from entrance data the student who will persist (Cope & Hannah, 1975). In addition, a research study by Pascarella and Terenzini (1977) revealed that pre-college characteristics are not significantly related to attrition, however, the level of academic integration, level of social integration and interaction between sex, major and racial or ethnic origins are.

Tinto (1987) observed that effective counseling and advising programs are apt to be systematically linked to

other student services on a college campus. Such programs tend to be part of a network of services aimed at student retention and are administratively linked to admissions and orientation programs. Tinto (1987) argues that the secret of retention is in the development of communities committed to education rather than retention.

In summary, there is substantial evidence that colleges can reduce attrition by rejecting applicants whose scores on standardized tests of scholastic aptitude fall below minimum requirements set by the college. Further, academic variables are the most significant predictors of retention, and the evidence suggests that these factors account for half the variance (Pantages & Creedon, 1978). By far the greatest predictive factor is the student's past academic record and academic ability (Lenning et al., 1980).

Issues Related to Black Students Attending Predominantly White Universities

Black undergraduate students in predominantly white colleges and universities are candidates for severe adjustment difficulties. First, black students are subject to the adjustment problems experienced by all students of higher education. They are vulnerable to the rigors that accompany course examinations, the difficulties of keeping up with more demanding academic standards, financial difficulties, sexual adjustments, peer pressures, and the

difficulties involved in maintaining stable, supportive relationships back home (Gunnings, 1982). In addition, there are the racial and cultural influences that affect the black students on predominantly white campuses, causing them to "occupy a relatively more stressful position in the campus social structure and thus perceive their environment quite differently than their white counterparts" (Gunnings, 1982, p.13). Fleming (1984) concurs that unique problems confront the black student at most predominantly white colleges and universities.

Research evidence suggests that institutional alienation is the most significant characteristic of black student experiences (Gibbs, 1973). Such factors as racial imbalance, dissociation from the subject matter, inadequate teacher - black student communication, and perceived indifference or negativism in white faculty and students, contribute to black student feelings of insecurity and tend to obstruct the educational process (Gibbs, 1974). Sex and role discrimination are often cited as obstacles black women must confront in the process of attaining their goals (Lewis, 1986).

For students, regardless of race, to succeed in colleges and universities, they must be provided with what Fleming (1984) calls "intentional interpersonal support systems" to enhance the quality of campus life. Included in this myriad of institutional responsibilities are black student organizations, black student affairs departments

and/or cultural centers, friendly relations with white peers, faculty, staff, and university administrators, and significant numbers of black students and black faculty to guarantee a greater level of persistence for the black student (Fleming, 1984).

The quality of life at many of America's higher educational institutions has been greatly diminished for all students. Ernest Boyer, president of the Carnegie Foundation for the Advancement of Teaching, indicated that the permissive moral code and the poor student teacher relationships have combined with increased racial tensions to decrease the quality of campus life and deteriorate the sense of community at many institutions (Wilson, 1990).

One of the most noticeable changes which has occurred in higher education over the past several years is progress in educating students within a more racially integrated university setting. Tinto (1987) suggested that black high school graduates are at least as likely to enter college, if not more so, than whites. The success of these freshmen who enter higher education institutions is not linked to race but to "institutional fit". Endo and Harpel (1982) and Tinto (1975) base their models on the concept of personal interaction with the environment--institutional and personal fit.

Nettles, Gosman, Thoeny, and Dandridge (1987) found that race, type of institution, and minority/majority status are significantly related to both progression rate

and college grade point average. They asserted that white students attending predominantly white large, public universities, and majority race students, had the fastest progression rates and highest college grade point averages. Predominant race of institution, on the other hand, was not related to progression rate, with students attending predominantly white institutions having a significantly faster mean progression rate than students attending predominantly black institutions.

Allen (1984) found that black students drop out of college at a higher rate and progress through college at a slower pace than white students. Minority race students have higher attrition rates than majority race students on the same campuses, but black minority students have lower attrition rates than black majority race students. Majority race students also have faster progression rates than minority race students, but black minority race students have faster progression rates than black majority students.

Allen (1985) and Fleming (1984) found that black students' campus experiences have a great impact on academic performance and retention. They found that black students who attend predominantly white colleges and universities tend to be more successful when they are regular participants in black student organizations, have positive faculty relations, and gain a sense of satisfaction and support from the campus milieu.

Studies by Allen (1984) and Boyd (1982) tend to confirm the notion that black students from higher income families tend to have a better support system and are more successful in college than students from lower income families. These researchers also found that academic success was associated with parents who achieved high educational attainments. However, Boyd (1982) cautions that these indicators have a limited effect on academic performance.

In a study of the quality of life of black undergraduate students at the University of South Carolina, Hopson (1990) found that most black undergraduate students had experienced racial discrimination on campus at least once; the majority of these students were dissatisfied with the lack of sufficient black faculty and administrators to serve as role models for black students; and most black students thought that the majority of white students were not open and friendly. Black students expressed the least satisfaction with personal services including academic and career advising and financial aid. Their contact with faculty and administrators was another source of dissatisfaction for these students both in regard to quantity and quality of contacts. This study indicated that interracial tensions felt by black undergraduates were more likely to emanate from white students than white faculty. On the whole, the black undergraduate students described the atmosphere on the university campus as

somewhat unsatisfactory (Hopson, 1990).

In summary, black students at predominantly white universities experience several adjustment difficulties. Racial and cultural influences affect black students, causing them to be under more stress and to perceive their environment quite differently than their white counterparts (Gunnings, 1982). Research evidence presented by Gibbs (1973) suggests that institutional alienation is the most significant characteristic of black student experiences on predominantly white campuses.

Peer Counseling Research

Through the years student services professionals have developed and implemented varied programs to meet the ever-changing needs of their constituents. One of the most common innovations reported in student personnel work in colleges and universities is the establishment of peer counseling services. The involvement of undergraduate students as peer counselors on campus represents a serious effort by educators to improve the quality and quantity of services to students. As a result, new learning opportunities for students are developed and the limited resources of professional staff are supplemented.

Dandrea (1987) defines peer counseling as the active use of listening and problem-solving skills combined with knowledge about growth and development of students in order to help, advise, and counsel other students. It is a way of involving students with other students to gain positive

supportive interpersonal relationships. Peer counselors are trained to assist other students in adjusting to or negotiating their way through an educational system.

The peer counseling movement has had a significant influence on the field of college student affairs. Since the early 1960s, the concept of using students to counsel and advise other students has engendered a voluminous literature. Only a small proportion of studies, however, is research based. The purpose of this section of the literature review is to present a synopsis of the state of peer counseling research on black student success.

A comprehensive analysis of peer counseling research is necessary to determine what is being done in the field and if it is adequate. What are some of the purposes of peer counseling programs? What types of programs are there? How are they evaluated? What are the results of these evaluations? Based on answers to these questions, a research model will be developed to evaluate the Minority Assistance Peer (MAP) Program, a peer advisement program at the University of South Carolina.

On reviewing the literature, it became readily apparent that obvious differences existed among peer counseling studies. Some dealt with the types and purposes of peer counseling programs while others could be defined as evaluations of peer program interventions. Still others appeared to be descriptions of models or programs.

Types and Purposes

Peer counselors have been used in higher education for at least thirty years (Conroy, 1978) and have been demonstrated to be effective in several capacities including academic advising, residence advising, and outreach counseling (Conroy, 1978; Gordon, 1980). In a recent study, Ender and Winston (1985) reported on the use of peer counselors throughout universities in the United States and indicated that more than 80% of the institutions surveyed used peer counselors in an orientation capacity.

The breadth and range of peer counseling services are comprehensive in scope. Peer counselors have been used in the widest possible variety of helping relationships. Edgar and Kotnick (1972) reported training undergraduate psychology students as therapists for needy students. Peer counselors have been used as drug counselors, as dispatchers of information related to tutorial services, financial aid, birth control, and for making referrals to other resources (Dawson, 1973; Johnston, 1974; Sue, 1973). They have also been included in crisis intervention programs and telephone advising. Other methods of using peer counselors include telephone hot-lines, outreach programs for freshmen and foreign students, education advising, residence hall counseling, individual and group peer counseling, assertiveness training, program development, and self-help mental groups.

A detailed examination of the uses of student

counselors in four-year institutions of higher learning was provided by Brown and Zunker (1966). They designed a questionnaire specifically to obtain the following information: (a) places where peer counselors are used on campus, (b) size of counselor groups and types of counseling activities routinely performed by peer counselors, (c) criteria employed in the selection of peer counselors, (d) amount of formal training given to peer counselors, (e) personnel directly involved in giving training to peer counselors, (f) instructional procedures used in training peer counselors, and (g) effectiveness and acceptance of peer counselors.

Responses from the random sample of 118 institutions of higher education indicated most were using peer counselors to assist in the guidance of freshmen and most of them were assigned duties in the dormitories. However, the limited assignments of peer counselors to instructional departments, study habit clinics, and testing and guidance offices suggests a trend toward their increased use to provide more organized academic adjustment guidance, especially in the institutions with enrollments fewer than 2000. The functions most often performed by peer counselors are new student orientation and residence hall supervision. Subject-matter tutoring and vocational guidance are reported more at larger institutions (student populations over 2000) while study-habit counseling and personal-social problems counseling are moderately used.

Peer counseling is used to extend counseling services to a larger number of youths than is presently receiving services from traditional counseling programs. It is a means for students to provide help and support and to offer a sense of safety to other students. Peer counseling is a way in which specially trained students can be "friends or be friendly or help (other students) learn the skills to build their own friendship group" (Varenhorst 1974, p. 271).

Evaluations of Interventions

Several studies have been conducted on the effect of peer counseling interventions designed to promote academic success. In these studies, retention, campus involvement, college adjustment, and academic performance have been used as indices of this goal. Furthermore, the authors of these studies evaluated either a model, program or intervention.

In a study designed to help full-time students to improve their academic survival, Dube (1981) compared a group of black freshmen (N=101) who were assigned a peer advisor (experimental group) with a control group of black freshmen (N=117) who were assigned a faculty advisor. He examined two variables: academic performance and attitude about the program.

The intervention was a program of five scheduled activities that were integral to the operation of the program. These activities included: (a) Freshman Orientation; (b) a personal meeting between the student

advisees and their peer counselors at the beginning of the semester; (c) study skills workshops during the fifth and sixth weeks of classes; (d) pre-registration for the Spring semester; and (e) a workshop dealing with financial aid, awards, scholarships, etc. In addition, unscheduled counseling sessions occurred between some students' advisees and the peer counselors.

Although the experimental group achieved significantly higher quality point averages than the control group, it was not proved that anything other than chance operated. The experimental group also had fewer students on academic probation, fewer withdrawals from the college, and a greater number of students achieving honors. In addition, the experimental group perceived the value of peer counseling activities differently than the control group. The "Hawthorne Effect" was not controlled for nor was there any attempt to select groups similar in academic ability and motivation.

Another study investigated two models of counseling to determine which best facilitated self-disclosure and trust in black college students (Williams, 1974). One model involved professional counselors; the other consisted of minimally trained peer counselors. The subjects were assigned to one of the two models and exposed to five 60-minute counseling sessions with either a professional or a peer counselor. It was hypothesized that persons participating in a peer counseling experience will trust

and self-disclose at a higher level than persons participating in a professional counseling experience. The results did not support the hypothesis. Both groups disclosed and trusted at a significantly higher level after treatment. A "t" test was used to determine mean performances of the two groups at the .05 level and no significant differences were found.

Russell and Thompson (1987) compared four groups of first-year black students to determine the effectiveness of a peer-helping program. The groups included: (a) the peer-helping group, (b) a group of students living in residence halls, (c) a group of students living at home, and (d) a group of students living in the city in which the college was located but not in contact with any systematic program intervention. All groups were composed of randomly selected, full-time, traditional students. The four groups were compared on the following scales as measured by the Western Experience Questionnaire (WEQ) and developed for this study: (a) Academic Achievement and Confidence, (b) University as a Personal Place, (c) Satisfaction with University, (d) Involvement on Campus, and (e) Total WEQ score.

The findings were:

(1) On Academic Achievement, the peer-helping group scored lowest.

(2) On University as a Personal Place, the peer-helping group scored higher than the home and residence

hall groups; the no-contact group scored higher than the residence hall group.

(3) On Satisfaction with University, the peer-helping group scored highest.

(4) On Involvement on Campus, the peer-helping and residence hall groups scored higher than the no-contact and home groups.

(5) On the total WEQ score, the peer-helping group scored higher than the home group.

The study appeared to be well designed, but specific information about the validity and reliability of the measurement tool was not presented.

The Johnson (1976) study evaluated the effects of three models of student counseling, race, and sex on the behavior and attitudes of first year black students (N=84). The three counseling models tested were Behavior Modification Approach, the Systemic Counseling Approach, and the Peer (no training) Approach. The investigator attempted to identify those students who had difficulty functioning in the college environment and to subsequently determine the personal and environmental factors which were related to their academic performance.

The experimental design was a 3X2X2 factorial design. The three independent conditions were: counseling model, race, and sex. Dependent measures compared among client and counselor groups included self-perceptions, attitudes toward the educational process, counseling relationship

variables, and academic performance measures, i.e., credit load and grade point average. Questionnaires were administered prior to client assignment and at the end of the experiment. Additional information was obtained from student academic files, the trainer-supervisors, and case records. Statistical analyses included the use of chi-square, single and repeated measures of analysis of variance, and cluster analysis.

The major hypotheses in this experiment involved differences between counseling models. Few significant differences were found on attitudes toward self or higher education, counseling outcome, or academic performance. There were significant racial differences on outcome measures. White students generally held more positive attitudes than black students for both client and counselor groups. Race also correlated with perceptions of counseling--white students tended to rate counseling as more successful than black students. White students also performed better academically than black students for all groups. Male counselors reported more positive attitudes than female counselors; the pattern was not consistent for client scales. Females perceived counseling as more successful than male clients. Although females tended to perform better academically than males, this difference did not reach statistical significance.

Locke and Zimmerman (1987) designed a study to determine if there was a significant difference in the

level of moral reasoning and the level of ego development as a result of serving as a mentor in a peer helper training program. The primary objective of the program was to assist black freshmen in their academic, emotional, and social-cultural adjustment to the university. They found no statistically significant differences in the mean scores, as measured by the Defining Issues (DIT) pre and posttests on moral development. Also, the mean pretest scores of the experimental group and the comparison group did not differ significantly. The mean posttest score (2.17) of the experimental group, as measured by the Sentence Completion Test (SCT), was significantly different from the mean pretest score (1.15) on the measure of ego development as a result of training. However, there were no significant differences between the mean scores of the experimental and comparison groups on the pretest.

Westbrook and Smith (1976) also reported on a training program. Its purpose was to train black peer counselors more broadly and in less depth, and to increase the number of students served. Black junior and senior resident assistants (RAs) volunteered to become peer counselors while remaining in their regular staff positions. There were two training sessions. The first session objectives were: (a) to analyze resident assistant staff roles and to show that RA responsibilities and adjunct peer counseling functions were very similar, and (b) to elicit a list of problems that black students typically presented to them

for solutions. The second training session used Kagan's Interpersonal Process Recall (Kagan & Schamble, 1969) and Ivey's (1971) micro-counseling techniques. In addition, the trainees were divided into triads to role play interviews around vignettes developed in the first training session.

The results were reported in frequency of contacts with black students for each semester by problem area, sex of peer counselor, and frequency of referrals. For the spring semester 1973, 20 student contacts were reported and three referrals were made. The sex of the peer counselor was not reported because several students failed to sign their names to their reporting forms. For the fall semester 1973, male and female peer counselors each reported 33 student contacts (total of 66), and 29 (44%) referrals were made.

McElroy (1975) studied the impact of peer counseling upon the attrition rate of college freshmen. The concern of the study was "the effectiveness of a peer counseling program to reduce attrition during the critical freshman year at a small, private, senior institution" (p. 8). It was hypothesized that freshmen with peer counselors would make better grades, achieve greater academic and occupational direction, develop a more positive attitude toward college, and produce less dropouts than their noncounseled counterparts.

At the beginning of the fall semester, 24 upper-

classmen trained as peer counselors were assigned to 224 new freshmen to facilitate their academic, personal, and social adjustment to the college environment. Small groups were established for the purposes of establishing a sense of identity with and acceptance by other students.

The freshmen were compared by counseled and control (non-counseled) groups to determine if there were differences between means of grade point averages, sense of direction, attitude toward college, and attrition rate. Male and female groups were also compared. Analysis of data revealed that the counseled group achieved significantly higher grades and realized a significantly lower attrition rate than did the freshmen in the non-counseled group. No significant differences resulted between the groups in their sense of academic or occupational direction, nor in their attitudes toward college.

Benson (1975) investigated the relationship and differences between minority students who utilized (N=191) and minority students who had not utilized (N-135) the services of peer counselors at a large midwestern state university. The determination of relationships and differences was made by analyzing (1) grade point average, (2) sex, (3) age, (4) place of residence, and (5) retention. In addition, an analysis was done to determine if any relationship existed between grade point average and retention of students who made use of peer counseling

services due to age, sex, place of residence, and frequency of peer counselor contact. Statistical techniques used to analyze the data were analysis of variance, Pearson product moment correlation coefficient, and chi square.

It was concluded that there were no significant differences (at the .05 level) between age, grade point average, place of residence, and retention of students who made use of and those who did not utilize the peer counseling services. It was also concluded that the retention of minority students who utilized peer counseling was greater than that of minority students who did not make use of peer counseling. Although it could not be attributed to the treatment, the mean grade point average of those who sought peer counseling was higher. There were no significant relationships between age, sex, and place of residence with grade point averages and retention of students who utilized the services. A positive relationship did exist between the frequency of peer counselor contact and grade point average.

West (1975) studied the "helper" principle concept by means of a research design that focused on "helping" and "training" as two experimental main effects. He also analyzed the interaction between these two main effects.

The research model used for this study was a 2X2 factorial design involving the crossing of the variables, training and helping. Four groups were involved in the study: (a) Helping-Nontrained Group; (b) Helping-Trained

Group; (c) Nonhelping-Trained Group; and (d) Nonhelping-Nontrained Group. The Tennessee Self-Concept Scale, The Communication Index, The Discrimination Index, and the Interview Evaluation Inventory were administered to obtain pre-treatment scores on dependent measures of self-concept, communication, discrimination, and interviewing skills. The measures were readministered nine weeks later in addition to a Helper Questionnaire. The analysis of covariance technique was used to analyze pre- and post-criterion scores, while the analysis of variance was used for the interview evaluation data. For analysis of the Helper Questionnaire, the chi square test was used.

The findings indicated that self-concept change was not related to the helping, training, and interaction effects. Also, the prediction that the main effect of training would be related to self-concept change was not verified. Greater improvement in helper-communication ability was related to training, but for helper-discrimination functioning, the results indicated no statistically different helping, interaction, or training effects. There was no difference observed between trained and untrained helpers when compared to clients' judgements of interviewer effectiveness. Further study of the "helper" principle was suggested.

Hickman (1979) investigated the effectiveness of a student-to-student counseling program for marginal, female first year students. She studied academic adjustment, as

measured by grade point average (GPA), the relationship between attrition rate and type of study-skills and academic adjustment counseling, and feelings of confidence in study skills of marginal, female, college freshmen participating in a student-to-student counseling program. The basic design of this study followed a quasi-experimental model wherein two groups (a control group and an experimental group) were studied in college at two different times. Academic records and a self-reported questionnaire were the measurements used.

After four consecutive semesters, both groups were compared on three indexes of counseling results: (a) cumulative GPA, (b) attrition rates, and (c) the experimental group subjects' rating of their feelings of academic confidence after participating in structured study-skills sessions. The student-counseled (experimental) group earned GPAs equal to that of the professional-counseled (control) group, and the attrition rate was significantly lower for the experimental group. The experimental group also rated the student-to-student counseling program as helping them to feel more confident about their study-skills.

Summary

This chapter reviewed the general literature related to academic performance and retention. A discussion of academic and retention factors as well as the interaction between these two variables were presented. This survey

also provided some general issues rela
who attend predominantly white insti
chapter presented published and unp
black peer counseling programs at
universities.

High school GPA and aptitude test s
measures of pre-college academic ability which
evidence of academic ability in higher education. High
school rank is a better indicator of the probability of
graduation than standing in the placement tests.
Therefore, high school grades, rank, and scholastic
aptitude measures are most effective in predicting college
achievement.

Research findings on several retention variables were cited. Students drop out from college for many reasons. Chief among them are the desire to change to a college with a better social life and to a college with a better academic reputation. Student involvement and academic and social integration impact student retention heavily.

Although up to one third of college dropouts occur due to poor grades or academic failure, it must be realized that the majority of students leave college for other than academic reasons. Although college records indicate that academic failure is high for dropouts, there are many underlying problems of the psychological, parental, social, and financial nature. Academic factors were found to represent the strongest predictors of retention, but the

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correlation was no more than .50. The main factors predicting retention were the level of students' previous academic achievements and their educational aspirations (Lenning et al., 1980).

Several investigations of high school and college grade point averages, scholastic aptitude test scores, type of high school program, and high school rank have found relationships between these academic performance variables and retention. Ability is a key factor for differentiating dropouts and persisters. However, research studies by Pascarella and Terenzini (1977) revealed that pre-college characteristics are not significantly related to attrition, but that the level of academic integration, level of social integration and interaction between sex, major and racial or ethnic origins are.

Black undergraduates experience several adjustment difficulties when attending predominantly white institutions. There are racial and cultural influences that affect black students, causing them to be under more stress and to perceive their environment quite differently than their white counterparts (Gunnings, 1982). Research evidence presented by Gibbs (1973) suggests that institutional alienation is the most significant characteristic of the black student experience on predominantly white campuses. Such factors as racial imbalance, dissociation from the subject matter, inadequate faculty - black student communication, and perceived

indifference or negativism in white faculty and students contribute to black students feelings of insecurity and tend to obstruct the educational process (Gibbs, 1974).

Several published and unpublished research reports were reviewed that discuss types of peer counseling programs, their purposes, methods of evaluation, and evaluation results. Although the literature was replete with descriptions of peer counseling programs, a paucity of empirical research focused specifically on the impact of black peer counseling programs on black student success.

It is apparent that the purposes of peer counseling programs dictate the types of activities performed by peer counselors. Concomitantly, the purposes of these programs are related to the places where peer counseling is utilized on college campuses. For example, peer counseling implemented in an academic skills department focuses on study habits. While most programs use peer counselors to assist with freshmen orientation, some other uses include academic survival, retention, psychological development, college involvement, and social adjustment.

As might be expected, those studies classified as experiments or evaluations of intervention tend to be more rigorously designed and implemented than the descriptive studies. Also, the major studies on the types and purposes of peer counseling were comprehensive and well done. Because several studies had confounding variables or did not control for known variables, the results are

questionable. Some were also subject to internal and external validity problems resulting from faulty design such as selection bias.

In addition, the number of studies using unrepresentative samples was surprising, since this jeopardized the generalizability of the findings. Although some studies reported significant positive effects on student success, it was difficult to assure that the interventions were responsible.

Finally, the preceding review of relevant literature pertaining to academic performance and retention, issues related to black students who attend predominantly white universities, and black peer counseling programs at predominantly white universities was provided to serve as an introduction to the chapters that follow. The next chapter will focus on the specific methods and procedures used to implement this study.

CHAPTER THREE

METHODOLOGY

The research problem under investigation in this study was to determine if students who participate in the Minority Assistance Peer (MAP) program achieve higher levels of academic performance and attain higher retention rates than nonparticipants. This problem was identified in the first chapter and relevant literature relating to this problem was explored in the second chapter. The current chapter focuses on the methods used to carry out this study. This chapter addresses the population and samples, variables and definitions, the design of the study, study procedures, and data analyses.

Review Questions

This study was designed to answer the following questions:

1. Is the academic performance of MAP participants different from that of nonparticipants?
2. Are the retention rates of MAP participants different from those of nonparticipants?
3. What is the relationship of academic performance and retention rates with MAP participation controlling for differences in sex, predicted grade point average (PGPA), and enrollment in the University 101 freshman seminar course?

Population and Samples

The MAP program is a self-selective, volunteer program in which students are asked via mail after acceptance for admission to indicate if they want to participate. There are no other selection criteria for student participation. An upperclass student is assigned to a freshman participant who has the same or a similar major.

The population for this study consisted of all first-time baccalaureate degree-seeking black freshmen who were enrolled at the University of South Carolina-Columbia during the fall semesters 1987 and 1988. These two semesters were selected because they represent the second and third years that the MAP program existed at the University of South Carolina. Thus, the program would have been fairly well established before it was studied, having been in place for an entire year.

The population was divided into students who participated and did not participate in the MAP program. Each MAP participant was assigned a peer counselor during the fall semester of his or her freshman year. The non-participants were the remaining black freshmen who did not enroll in the program.

Finally, descriptive data were used to characterize the differential distribution of MAP participants and non-participants in the two years of study within the following categories: sex, predicted grade point average (PGPA), and University 101 participation. The distribution of

participants and nonparticipants over these categories was used to provide a base line comparison of the results of the study, and to assist in the interpretation of any differences that might result among the dependent variables.

Selection Criteria

The subjects selected for this study were black high school graduates, accepted as freshmen into baccalaureate programs at the University of South Carolina-Columbia, who had no previous college credit, and who were enrolled for the first time during fall semesters of 1987 and 1988. Students who had previous college attendance, previous college credit, associate degree enrollment or credit, or who were mature students without high school diplomas, were excluded from this study.

MAP Participation

MAP participation was defined as enrollment in the MAP program and assignment to a peer counselor during the fall semesters, 1987 and 1988, as recorded in student files. As illustrated in Table 1, there were 412 black entering freshmen who enrolled during the fall semester, 1987, and 414 black entering freshmen who enrolled during the fall semester, 1988. Of the 412 students who were enrolled during fall 1987, 187 participated in the MAP program while 225 were nonparticipants.

Table 1

Number of Students Participating in MAP Program for Fall Semesters 1987 and 1988

	Fall 1987	Fall 1988	Total
Participants	187	136	323
Nonparticipants	225	278	503
Total	412	414	826

Of the 414 students who were enrolled during the fall semester, 1988, 136 were enrolled in the MAP program and 278 were nonparticipants. These two cohorts were followed through four successive semesters, that is, through the completion of the sophomore year.

Variables and Definitions

A listing of the variables studied and a brief definition of each are provided in Table 2. In addition, the variables are identified by type, i. e., independent, dependent or intervening. The following operational definitions were used throughout the study:

1. MAP participation or nonparticipation - Enrollment in the MAP program included assignment to a peer counselor during the fall semesters, 1987 or 1988 as recorded in student files. All other students were classified as nonparticipants.

2. Academic Performance - The scholastic performance of students as measured by cumulative GPA at the end of each semester.

3. Retention Rates -

A. Sophomore Year Return Rate - Proportion of students who initially enrolled in fall semesters 1987 and 1988 and were still enrolled at the beginning of their sophomore year (i.e., fall semesters 1988 and 1989 respectively).

B. Sophomore Year Completion Rate - Proportion of students who initially enrolled in fall semesters 1987 and 1988 and who completed their sophomore year (i.e., received grades for spring semesters 1989 and 1990 respectively).

4. Sex - Male or female.

5. University 101 participation or nonparticipation - Participation is defined as the enrollment in the course during fall semesters 1987 or 1988, as recorded on student transcripts. All other students were classified as non-participants.

6. Predicted Grade Point Average (PGPA) - A measure of academic potential which uses predictor weighted verbal and quantitative scores on the Scholastic Aptitude Test (SAT), and high school rank (HSR). The PGPA has been used as a basis for admission at USC-Columbia since the fall semester of 1980.

Table 2

List of Variables Studied

Variable	Definition	Variable Type
MAP Participation or Nonparticipation	Enrollment or non-enrollment in MAP program	Independent
Academic Performance	Scholastic performance (GPA)	Dependent
Retention	Sophomore Year Return & Completion Rates	Dependent
Sex	Male or female	Intervening
Predicted Grade Point Average (PGPA)	Academic potential (Combined Scholastic Aptitude Tests scores and high school rank)	Intervening
University 101 Participation or Nonparticipation	Enrollment or non-enrollment in University 101 course	Intervening

Sex

The distribution of MAP participants and non-participants by sex is shown in Table 3. Nearly two-thirds of all black freshmen are female. MAP participants were more likely to be female than were nonparticipants, especially in 1988. A chi square analysis (1, N = 412) = 2.93, p<.09 revealed that the differences that existed for the 1987 cohort were not statistically significant. Another chi-square analysis (1, N = 414, = 13.87, p<.01 revealed that the differences that existed for the 1988 cohort were statistically significant. These data indicate that females were disproportionately represented in the MAP program for 1988 and they also tended to be somewhat overrepresented in 1987 as well. Black female students perform better academically and tend to withdraw less from school than black male students (Fleming, 1984; Welsh, Conway, & West, 1987).

Table 3

Distribution of MAP Participants and Nonparticipants by Sex, 1987 and 1988

Year	Sex	Percent of Participants	Percent of Nonparticipants	Total
1987				
	Male	31.0	39.1	35.4
	Female	69.0	60.9	64.6
1988				
	Male	25.0	43.9	37.7
	Female	75.0	56.1	62.3

Note. The chi-square value of 13.87 was statistically significant at the $p<.01$ level for 1988.

Predicted Grade Point Average

As illustrated in Table 4, MAP participants were more likely than nonparticipants to be concentrated in the higher PGPA ranges, especially in 1987. The chi-square analyses (3, N = 403) = 20.34, $p<.01$ for 1987 and (3, N = 409) = 4.82, $p<.19$ for 1988 revealed that the differences that existed were statistically significant for the 1987 cohort. These data indicate that MAP participants in both cohorts had higher predicted grade point averages than did nonparticipants but the 1987 group was statistically

significant as well. Predicted grade point average is one of the strongest predictors of grade point average and retention (Pantages & Creedon, 1978; Tinto, 1975).

Table 4

Comparison of MAP Participants and Nonparticipants by Predicted GPA for 1987 and 1988

Year	PGPA Interval	Percent of Participants	Percent of Nonparticipants	Total
1987				
	Below 2.0	13.0	21.9	17.5
	2.0-2.49	51.1	61.2	56.2
	2.5-2.99	31.5	14.6	23.1
	3.0 & Above	4.3	2.3	3.3
1988				
	Below 2.0	17.6	14.3	16.0
	2.0-2.49	50.0	60.4	55.2
	2.5-2.99	29.4	21.6	25.5
	3.0 & Above	2.9	3.7	3.3

Note. The chi-square value was significant at $p<.05$ for 1987.

University 101 Participation

Table 5 shows that almost one-half of the MAP participants and slightly over one-third of the non-participants were enrolled in University 101 in the 1987 cohort. In 1988, there was also a greater proportion of MAP participants enrolled in University 101. Although these data indicate that MAP participants tended to be more likely to enroll in University 101 than were non-participants, the differences were not statistically significant. Since the University 101 program was established, retention rates were higher for University 101 participants than nonparticipants (Fidler, 1989).

Table 5

Comparison of MAP Participants and Nonparticipants by University 101 Participation for 1987 and 1988

Year	University 101 Participation	MAP Participation	MAP Non-participation	Total
1987				
	Yes	46.5	38.7	42.6
	No	53.5	61.3	57.4
1988				
	Yes	49.3	42.8	46.1
	No	50.7	57.2	53.9

Summary of Descriptive Characteristics

MAP participants and nonparticipants in the 1987 and 1988 cohorts were different with regard to selected characteristics. For example, MAP participants were more likely to be female, had higher predicted GPAs and were more likely to enroll in University 101 than their nonparticipant counterparts. Each of the intervening variables (sex, PGPA, and University 101 participation) has been shown to be positively related to academic performance and/or retention.

Study Procedures

The population for this study was identified using existing records in the Office of Minority Student Affairs (OMSA) and the University's Retention File. The following procedures were undertaken in order to collect the data for this study:

1. The records in the OMSA were searched to identify each student who participated in the MAP program. The students were identified by social security number. The subjects were then divided into two groups for each of the two points of entry (fall semesters 1987 and 1988). These groups contained the MAP participants.
2. After the MAP participants were selected, a master file was created using social security numbers and the University's retention file was accessed. Data from the retention file were merged with the

master file to identify all other black students who entered the University during fall semesters 1987 and 1988. These groups contained the nonparticipants. Students in all four of these groups were followed for a two year period through successive semesters.

3. A computer search of the Conversational Management System (CMS) data base historical tapes for fall semesters 1987 and 1988 was conducted for the four groups. Data obtained through this search were stored in a master computer file established for this study. Transcript data were merged with the master files and were used to provide academic performance measures for participants and non-participants.

The following additional information was gathered on each selected record during the two points of entry: sex, predicted grade point average (PGPA), and University 101 participation. These data were used to characterize MAP participants and nonparticipants. The selected variables were drawn from student records from fall 1987 through spring 1990.

Student records identified in the initial search were preserved in a master data file. This file was then compared against the computer data history files for each of the subsequent academic semesters and terms through and including the spring semester of 1990. The average

cumulative GPAs and sophomore return and sophomore completion rates for each student in the group were obtained and recorded in the master file.

This procedure resulted in the comparison of the initial student data file against the data in each and every one of the files for the following four semesters. These comparisons yielded academic performance data and retention figures for the study.

Data Analysis

This comparative study investigated whether black undergraduate students who participated in the MAP program achieved different academic performance levels and returned to school at different rates than nonparticipants. Data collected for this study were analyzed using the SAS User's Guide: Basics, (1982) and the SAS User's Guide: Statistics, (1982) as reference guides. The SAS Statistical Package on the University of South Carolina's IBM mainframe computer was used to run the statistical tests. The .05 level of significance was used throughout the study.

The first question sought to determine if academic performance of MAP participants was different from that of nonparticipants. Academic performance was measured by calculating the cumulative college grade point average at the end of the each of the four semesters for each group. A t-test was used to determine if there was a significant difference between the two group means independent of the intervening variables.

The second question sought to determine if retention rates of MAP participants were different from those of non-participants. The retention variable was divided into two categories including sophomore year return rate and sophomore year completion rate. Sophomore year return data were analyzed by comparing the percentages of students in the two groups who initially enrolled during the fall semesters of 1987 and 1988 and who were still enrolled at the beginning of the fall semester of their sophomore years. Sophomore year completion data were analyzed by comparing the percentages of students in the two groups who initially enrolled during fall semesters of 1987 and 1988 and completed the spring semesters 1989 and 1990 respectively. The chi-square test was used to compare group retention proportions and to ascertain group associations on PGPA.

The final question examined the relationship of academic performance and retention rates with MAP participation controlling for differences in sex, predicted grade point average (PGPA), and enrollment in the University 101 course. Regression analysis was used to analyze these data and to control for the intervening variables. As a continuous variable, GPA is appropriate for multiple regression analysis. Multiple regression analysis was used to determine the relationship, if any, that existed between the academic performance of the two groups and also provided for control of intervening

variables, including sex, PGPA, and University 101 participation. Multiple regression analysis was also used with the retention variable. Categorical variables, such as retention, can be used in regression analysis if the variables are coded first. Dummy coding, the simplest method of coding categorical variables, was used in this study (Pedhazru, 1973).

Multiple regression is a statistical procedure that allows one to tell which variables have the most predictive power. It allows one to study the linear relationship between a set of independent variables and a number of dependent variables while taking into account the interrelationships among the independent variables. The basic concept of multiple regression is to produce a linear combination of independent variables which will correlate as highly as possible with the dependent variable (Kim & Kohout, 1975). All of the independent variables had to meet the minimum 0.15 significance level in order to enter the regression model.

Summary

The population of this study consisted of all first-time baccalaureate degree-seeking black freshmen who were enrolled at the University of South Carolina-Columbia during the fall semesters 1987 and 1988. The subjects were identified through records in the Office of Minority Student Affairs and the University's Retention File. This population was divided into two groups based on MAP program

participation and nonparticipation. Computer data for two program groups were studied through four consecutive semesters.

Regression analysis and other appropriate data analysis techniques were used to determine the statistical significance of observed differences between the two study groups. A t-test was used to determine if there were significant differences between the two group means for the academic performance variable. The chi-square test was used to determine the significant differences between group proportions for the retention variable. The .05 level of significance was used throughout the study.

The data analyses and results of this study are presented in the next chapter. The final chapter will be used to discuss the findings, draw conclusions from the findings, and make recommendations for future research.

CHAPTER FOUR

RESULTS

The methods and procedures used to carry out this study were described in the previous chapter which included brief descriptions of the sample population. It was noted that although the proportion of female MAP participants was greater than male participants for both cohorts, the difference was only statistically significant in the 1988 cohort. These data indicated that MAP participants in both cohorts had higher predicted grade point averages than did nonparticipants but the differences were only significant in the 1987 cohort. It was also noted that there was a higher proportion of participants than nonparticipants enrolled in University 101 participants for both cohorts but the differences were not significant.

In this chapter, the data generated from existing records and merged with the retention files of the University of South Carolina are presented along with statistical analyses of the data as they relate to the following questions:

1. Is the academic performance of MAP participants different from that of nonparticipants?
2. Are the retention rates of MAP participants different from those of nonparticipants?
3. What is the relationship of academic performance and retention rates with MAP participation

controlling for differences in sex, predicted grade point average (PGPA), and enrollment in the University 101 freshman seminar course?

The data in this chapter are organized in the following sections:

1. Academic Performance of MAP Participants and Non-participants
2. Retention Rates of MAP Participants and Non-participants
3. Relationship of Academic Performance and Retention to MAP Participation, Sex, Predicted Grade Point Average (PGPA), and University 101 (U101)

Academic Performance of MAP Participants and Non-participants

In this section, data are presented about academic performance (GPA) of MAP participants and nonparticipants for each of the four semesters studied. Similarities and differences in academic performance, if any, between the MAP participants and nonparticipants will be cited.

Table 6 presents the results of the first major research question posed in this study: Is the academic performance of MAP participants different from that of non-participants? A comparison of mean cumulative GPAs between MAP participants and non-participants reveals that this research question was answered affirmatively. As Table

illustrates, there were significant differences between the 1987 and the 1988 cohorts on academic performance.

Table 6

Comparison of Mean Cumulative Grade Point Averages (CGPA) by Semester and MAP Participation

	Participants		Nonparticipants		
Semester	N	CGPA	N	CGPA	T-value
		1987 Cohort			
1st	187	2.39	224	2.17	2.97**
2nd	177	2.27	214	2.07	2.68**
3rd	159	2.35	187	2.24	1.79
4th	150	2.34	175	2.27	1.04
		1988 Cohort			
1st	136	2.29	278	2.05	2.97**
2nd	134	2.28	257	2.08	2.66**
3rd	117	2.41	217	2.24	2.41*
4th	115	2.45	211	2.28	2.61**

*p<.05

**p<.01

For the fall 1987 cohort, the mean cumulative GPAs were significantly higher for MAP participants than for nonparticipants for the first two semesters the students were enrolled. These differences were statistically significant at the .01 level. While the differences were not statistically significant at the end of the third and fourth semesters, the mean cumulative GPAs were higher for MAP participants than for nonparticipants.

For the fall 1988 cohort, the mean cumulative GPA was significantly higher for MAP participants than for non-participants at the end of each of the four semesters studied. These differences were statistically significant at the .01 level for all but the third semester. The difference at the end of the third semester was statistically significant at the .05 level.

Retention rates of MAP Participants and Nonparticipants

Sophomore return and completion rates of MAP participants and nonparticipants for the 1987 and 1988 cohorts are presented in this section. Similarities and differences in retention rates, if any, between the participants and nonparticipants are also cited.

Table 7 presents the results of the second major research question posed in this study: Are the retention rates of MAP participants different from those of non-participants? A comparison of sophomore return rates and

sophomore completion rates between MAP participants and nonparticipants reveals that this research question was also answered affirmatively. As Table 7 illustrates, there were statistically significant differences for the 1988 cohort on retention rates.

Table 7

Comparison of Retention Rates for Black Entering Freshmen by Cohort and MAP Participation

Year	MAP Participants	Non-participants	Chi-square
1987 Cohort			
Sophomore Return Rate	85.0	83.1	.279
Sophomore Completion Rate	80.2	77.7	.364
1988 Cohort			
Sophomore Return Rate	86.0	78.0	3.723*
Sophomore Completion Rate	84.5	75.8	4.091*

*p<.05

For the fall 1987 cohort, the sophomore return rate was 85.0% for MAP participants and 83.1% for non-participants. Although the sophomore return rate was numerically higher for MAP participants, the difference was not statistically significant. The sophomore completion rate was 80.2% for MAP participants and 77.7% for non-participants. This difference in sophomore completion rates was not statistically significant. Thus, the sophomore return and completion rates tended to be higher for MAP participants than for nonparticipants but they were not statistically significant for the 1987 cohort.

For the fall 1988 cohort, the sophomore return rate was 86.0% for MAP participants and 78.0% for nonparticipants. The sophomore return rate for MAP participants was higher and the difference statistically significant. The sophomore completion rate was 84.5% for MAP participants and 75.8% for nonparticipants. The sophomore completion rate for MAP participants was also higher and the difference was statistically significant. Thus, the sophomore return and completion rates were significantly higher for MAP participants than for nonparticipants for the 1988 cohort.

Relationship of Academic Performance and Retention to MAP Participation, Sex, Predicted Grade Point Average (PGPA), and University 101

The first step-wise regression model conducted

utilized the intervening variables PGPA, sex, and University 101 participation as well as the independent variable MAP participation in that order. This analysis was conducted separately for the 1987 and 1988 cohorts. The criterion variable was GPA at the end of four successive semesters, concluding with the completion of the sophomore year for each cohort. Tables 8 and 9 show the variables entered which were significant predictors of GPA for each cohort. Also presented are the significance levels of F and the R-square values for each subgroup.

For the first semester, PGPA and MAP participation were significant predictors of GPA for the 1987 cohort (Table 8). The amount of variance explained by the significant variables for the first semester was 10%. For the second semester of the freshman year, both PGPA and University 101 participation were significant predictors of GPA. Both PGPA and sex (female) were significant predictors of GPA for the third semester. For the fourth semester, PGPA and sex (female) were once again the only significant predictors of GPA. The total amount of variance explained by the significant variables in this model was 17%.

Table 8

Multiple Regression Analyses of Effect of Independent Variables on Cumulative Grade Point Averages (Fall 1987)

Semester	N	Significant Variable	Significance Levels	R-square
1st	401	(1) PGPA	.0001	.1931
		(2) MAP	.0351	.2222
		(3) U101	.0805	.2291
2nd	382	(1) PGPA	.0001	.1557
		(2) U101	.0378	.1652
		(3) MAP	.1421	.1722
3rd	339	(1) PGPA	.0001	.1535
		(2) Female	.0282	.1725
4th.	318	(1) PGPA	.0001	.1619
		(2) Female	.0413	.1748

For the 1988 cohort, PGPA, MAP participation, and University 101 participation were significant predictors of GPA for the first semester (Table 9). The amount of variance explained by the significant variables was 13%. For the second semester, again PGPA, MAP participation, and University 101 participation were significant predictors of GPA. PGPA, University 101 participation, and MAP participation were significant predictors of GPA for the third semester. The amount of variance explained by the significant variables was 12%. For fourth semester, all four variables were significant predictors of GPA. The amount of variance explained by the significant variables was 17%.

Table 9

Multiple Regression Analyses of Effect of Independent Variables on Cumulative Grade Point Averages (Fall 1988)

Semester	N	Significant Variable	Significance Levels	R-square
1st	408	(1)PGPA	.0001	.1084
		(2)MAP	.0078	.1238
		(3)U101	.0250	.1346
2nd	387	(1)PGPA	.0001	.1049
		(2)MAP	.0084	.1210
		(3)U101	.0149	.1345
3rd	331	(1)PGPA	.0001	.0907
		(2)U101	.0087	.1096
		(3)MAP	.0188	.1244
4th	323	(1)PGPA	.0001	.1135
		(2)U101	.0023	.1386
		(3)Female	.0056	.1593
		(4)MAP	.0423	.1701

Table 10 shows the variables which were significant factors of retention for the 1987 cohort. Presented are the significant levels of F and R-square values each group.

Table 10

Multiple Regression Analyses of Effect of Independent Variables on Retention (Fall 1987)

Semester	N	Significant Variable	Significance Levels	R-square
	382	(1)PGPA	.0003	.0323
		(2)Female	.0273	.0440
	339	(1)PGPA	.0060	.0187
	318	(1)PGPA	.0167	.0142

No variable met the 0.15 significance level for the semester.

Using this model for the 1987 cohort, there were no significant predictors of retention for the first semester. For the second semester, only PGPA and sex (female) were significant predictors of retention. The amount of

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variance explained by this model was 4%. Only PGPA was a significant predictor of retention for the third semester. The amount of variance explained by PGPA was 2%. For the fourth semester, PGPA was the only significant predictor of retention. The amount of variance explained by this variable was 1%.

For the 1988 cohort, no variable was significant in predicting retention for the first semester. Sex (female), MAP participation, PGPA, and University 101 were significant predictors of retention for the second semester. As Table 11 illustrates, the amount of variance explained by these variables in the model was 4%.

For the third semester or the beginning of the sophomore year, PGPA, University 101, and MAP participation were significant predictors of retention. The total amount of variance explained by the variables was 3%. Only PGPA and MAP participation were significant predictors of retention for the fourth semester or the end of the sophomore year. The total amount of variance explained by the variables in the model was 2%.

Table 11

Multiple Regression Analyses of Effect of Independent Variables on Retention (Fall 1988)

Semester	N	Significant Variable	Significance Levels	R-square
2nd	387	(1)Female	.0160	.0142
		(2)MAP	.0473	.0237
		(3)PGPA	.1210	.0295
		(4)U101	.0990	.0360
3rd	331	(1)PGPA	.0326	.0112
		(2)U101	.0431	.0211
		(3)MAP	.1040	.0275
4th	323	(1)PGPA	.0089	.0167
		(2)MAP	.0659	.0249

Note. No variable met the 0.15 significance level for the first semester.

It can be seen from the two tables presented on retention that the independent variables used in this regression model do not increase the ability to predict

retention. For both cohorts, only an extremely small percentage (less than 5%) of the variance could be explained by the selected variables. This indicates that these four variables either do not explain the difference in retention or are not the best predictors of retention.

On the contrary, the variables used in this regression model accounted for from 10 to 17 percent of the variation in GPA. These findings suggest that the variables may not be the best predictors of GPA or retention and perhaps other variables are more suitable for these purposes. PGPA is by far the best predictor of GPA and retention of all the variables used in this study. Although clearly not as strong a predictor as many would assume, PGPA only accounts for approximately 10% of the variation in actual GPA.

Summary

The results of the study indicate that MAP participants had significantly higher GPAs than [illegible] participants at the end of the first two semesters in the 1987 cohort. MAP participants also had significantly higher GPAs than nonparticipants for each semester in the 1988 cohort. The results further indicate that the sophomore return rates and the sophomore completion rates were higher for participants than for nonparticipants for both cohorts, and that these differences were statistically significant.

Differences in academic performance and retention may be attributable to the influence of the intervening variables: University 101, sex and predicted grade point average (PGPA). The strongest of these variables in predicting academic performance and retention [illegible] was PGPA. Each of these variables was positively correlated with academic performance and retention. MAP participants were more likely than nonparticipants to be female, to have higher PGPAs, and to be enrolled in University 101. Therefore, the higher academic performance and retention rates of MAP participants cannot be attributable to participation in the MAP program alone.

The multiple regression analysis compensated for the advantage of PGPA and other differences that were

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attributed to sex and University 101 participation. Multiple regression analysis provides equal chance for the intervening and dependent variables to enter into the model. Furthermore, it controls for the intervening variables which may have influence on the dependent variables.

The next chapter presents the conclusions and recommendations that were derived from these findings.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary and discussion of the results, draws general conclusions and gives recommendations regarding areas for additional research.

SUMMARY

This study was conducted to determine if academic performance and retention rates were different for MAP participants than for nonparticipants for black entering freshmen in fall semesters 1987 and 1988. The purpose was to evaluate the efficacy of the MAP program to enhance academic performance and retention.

Data concerning the subjects were drawn from the University of South Carolina Office of Minority Student Affairs and the System Office of Institutional Research. The study group consisted of 302 males and 524 females. Thirty-nine percent of these were MAP participants and 61 percent were nonparticipants. All of these students entered the University as first semester freshmen during the fall 1987 and 1988 semesters.

A review of the literature relating to college and university retention revealed that the first two years of college life are critical for effective retention efforts. It also revealed that formalized peer counseling programs are being increasingly devoted to improving academic performance and student retention and that there is a trend

toward distributing peer counseling over longer periods of time rather than concentrating it at just the beginning of the freshman year. Furthermore, peer counseling programs, which were designed to promote academic success, used academic performance and retention as two indices of goal attainment.

High school grades, rank, and scholastic aptitude measures were most effective in predicting college achievement. Student involvement and academic and social integration impacted student retention heavily. The main factors predicting retention were the level of previous academic achievement, and student educational aspirations (Lenning, Beal, & Sauer, 1980). Pascarella and Terenzini (1977) revealed that pre-college characteristics were not significantly related to attrition but that the level of academic integration, level of social integration and interaction between sex, major and racial or ethnic origins were.

Research evidence presented by Gibbs (1973) suggested that institutional alienation was the most significant characteristic of the black student experience on predominantly white campuses. Black undergraduates experienced several adjustment difficulties while attending predominantly white institutions.

Literature was cited that also identified peer counseling programs as a successful paradigm used to extend the impact of orientation programs. Although the

literature was replete with studies validating the effectiveness of such peer counseling programs, a paucity of empirical research focused specifically on the impact of black peer counseling programs on academic performance and retention rates over a period of time. A "comparative-longitudinal" study with multivariate techniques was recommended by Pascarella and Terenzini (1977) as the best way to objectively determine the impact of such programs.

The methodological approach involved a comparative study of 826 black entering freshmen at the University of South Carolina who entered for the first time during fall semesters 1987 and 1988. This population was divided into two groups based on MAP participation or nonparticipation. Computer records of these students were identified for the fall semesters of 1987 and 1988. These records were then tracked over the course of four successive semesters to determine cumulative GPA and sophomore return and sophomore completion rates.

After the data were collected, they were summarized for MAP participants and nonparticipants. The differential distribution of MAP participants and non-participants in the two cohorts within categories of PGPA, sex, and University 101 was examined. Significant differences were found between MAP participants and non-participants with regard to PGPA measures. The results of regression analyses indicate that PGPA, not MAP participation, was the best predictor of academic performance and retention.

Therefore, the findings in this study appear to be due primarily to differences in pre-college ability.

In contrast, the reported differences between MAP participants and nonparticipants with regard to sex and University 101 participation confirmed findings from other studies. Several researchers have found lower retention rates for black students and male students, and higher rates for women, but these findings have often been contradictory and have disappeared when controlling for academic ability and longer periods of enrollment (Astin, 1982; Iffert, 1957; Lenning et al., 1980).

There is no reason to believe that the entering classes of fall semesters 1987 and 1988 differed in academic ability or demographic characteristics from any other classes that entered the University in recent years. Therefore, conclusions drawn from this study can be generalized to other entering classes at the University. However, caution should be noted in generalizing such conclusions to institutions other than the University of South Carolina-Columbia.

Although the findings can be interpreted with some degree of confidence and since some controls were in place for effects due to sex, PGPA, and University 101 enrollment, caution should still be exercised. The literature suggests that black females tend to have higher grade point averages and retention rates than black males, and that University 101 participants have higher first

semester GPAs and retention rates than University 101 nonparticipants. Finally, students who have higher pre-college capability are predicted to experience more success in college.

Therefore, the findings generated from an analysis of these data indicate that MAP participants performed better academically and were retained at higher levels than non-participants. These differences in academic performance and retention rates were related to sex, PGPA, University 101, and MAP participation. Thus, the first two research questions posed in this study were answered affirmatively. The answer to the third research question showed that academic performance and retention had positive relationships with MAP participation controlling for differences in sex, PGPA, and University 101.

Conclusions

Academic Performance

The results of the first research question showed that the academic performance of MAP participants was higher than that of nonparticipants at the University of South Carolina-Columbia.

For the 1987 cohort, mean cumulative GPAs were significantly higher for MAP participants than for non-participants for the first two semesters. The mean cumulative GPAs were also higher for MAP participants than for nonparticipants for the third and fourth semesters but the differences were not significant. For the 1988 cohort,

the mean cumulative GPAs were significantly higher for MAP participants than for nonparticipants for each of the four semesters studied.

Retention

The second research question, concerning the association of MAP participation with sophomore return rates and sophomore completion rates, also revealed positive results. MAP participants were retained each semester at higher rates than nonparticipants.

For the 1987 cohort, the sophomore return rate was higher for MAP participants than for nonparticipants but was not statistically significant. The sophomore completion rate also was higher for MAP participants but was not significant. For the 1988 cohort, the MAP participants had a higher sophomore return rate and a higher sophomore completion rate at statistically significant levels.

Relationship of Academic Performance and Retention to MAP Participation, Sex, Predicted Grade Point Average, and University 101

The third research question examined differences in academic performance and retention rates as they were related to Sex, PGPA, enrollment in University 101, and MAP participation. A multiple regression analysis was performed to determine which factors contributed significantly to the variance of the dependent measures of academic performance and retention. This analysis revealed

that PGPA, MAP participation, University 101, and Sex were associated with academic performance, as measured by GPA, at the end of each of the four semesters studied for both the 1987 and 1988 cohorts. However, these factors in combination accounted for only 17 percent of the variance. Predicted grade point average (PGPA) was the strongest predictor (10%) of GPA. The independent and intervening variables explained only about 5% of the variance in the retention. Therefore, the variables used in this study may not be the best predictors of retention.

The following findings for the 1987 cohort were revealed:

1. PGPA was the best predictor of GPA found in this study. PGPA was also the strongest predictor of retention. It entered the regression model at the end of the second, third and fourth semesters. Only PGPA and Sex (Female) entered the model at the end of the second year to predict retention. No other variables predicted retention in this model. In addition, none of the variables predicted retention for the first semester.

2. MAP participation was a significant predictor of GPA for the first year only. MAP participation was the second strongest variable predicting GPA at the end of the first semester. MAP participation had an immediate effect on the academic performance of freshman students.

3. University 101 participation was a significant predictor of GPA at the end of the second semester. The

effect of University 101 on academic performance was stronger immediately after the students completed the course.

4. Sex was not a predictor of GPA in the first year, but was a significant predictor of GPA for the second year.

For the 1988 cohort, the following findings were revealed:

1. PGPA was the strongest predictor of GPA. PGPA entered the model, as a predictor of retention, at the third step for the second semester and at the first step for the the third and fourth semesters. None of the variables predicted retention for the first semester.

2. MAP participation was a significant predictor of GPA for each semester. MAP participation predicted retention for the second, third, and fourth semesters.

3. University 101 participation was also a significant predictor of GPA for each semester. University 101 predicted retention for the second and third semesters.

4. Sex was not a high predictor of GPA. Sex only entered the regression model during the fourth semester and did not explain much of the GPA differences. Sex (Female) was the strongest predictor of retention at the end of the second semester. However, it did not enter the regression model at the end of subsequent semesters.

Impact of MAP Program

The results in this study provided information on the efficacy of a formal peer counseling program. On the

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surface, it appears that the MAP program has been effective in meeting its goals of enhancing academic performance and retention of black students. However, the positive results may be due more to the characteristics of MAP participants than to program impact. The three intervening variables, sex, PGPA, and University 101 participation, all correlated positively with academic performance and retention.

It can be speculated that the findings of this study resulted from the nature of the students who elected to be involved in the program, the increased support system during the first semester offered by the MAP program, or the emphasis on exposure to campus support services and involvement opportunities.

It is important to note here the uniqueness of this sample and the population it represents. The sample included black students who volunteered to become involved in the MAP program. They comprised a special group of students, whose motives, experiences, and successes may be different from students who did not become involved. Also, these students were better prepared academically to negotiate the demands of college life. The students had higher PGPAs than those students who did not participate in the program. Thus, the interpretation of this study's results must be made with caution, recognizing the limitations on generalizing these results to other populations. On the other hand, the MAP program did show some positive impact on the dependent variables. It may be

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that the students who chose to become involved in MAP were "joiners" with associated personality types that dispose them to participate more actively in the collegiate environment. A specific form of joiner behavior, participation in extracurricular activities, has been associated with improved retention (Astin, 1975).

Another speculation concerns the possibility that enrollment in MAP may result in an increase in self-esteem and self-confidence. MAP students receive a great deal of attention, they may believe that they are special and have a competitive advantage over their nonparticipant counterparts, particularly if the MAP program involves more support than other sources. Therefore, the "Hawthorne Effect" may have influenced the results. If the lack of MAP support received by nonparticipants translates into unmet needs, several negativeconsequences could result.

MAP participants may have peer support outside the classroom available to assist them in adjusting to the difficult demands of college life. They may benefit from improved self-confidence from an increased support system and the positive developmental aspects of MAP participation. This extra support may also encourage them to prepare more effectively for all their courses and therefore achieve better first semester grade performance. Pantages and Creedor (1978) suggest that good grades are effective reinforcers that maintain and strengthen academic performance and decrease the chances of students dropping

out. Thus, a successful beginning could set the stage for more positive expectations and academic performance that reinforce future success.

The University 101 course, which promotes institutional integration through a direct behavioral connection to student services and campus activities, may also offer a clue to the enhanced student success that is associated with MAP participation. This is especially true since a greater proportion of MAP participants than nonparticipants enroll in the course. It is possible that service utilization and involvement, that are stimulated during the University 101 course, are retention enhancing and are sustained beyond the freshman year. Tinto (1985) notes that activities and experiences that promote social and academic integration strengthen student commitment and reinforce persistence.

Finally, it might be speculated that certain demographic factors within the freshman cohort, particularly sex, may have had a disproportionate influence on the results of the study. Significantly higher proportions of female students participated in the Map program. Welsh, Conway and West (1987) reported that the higher retention rate of black students compared to whites at the University of South Carolina-Columbia may be due to sex rather than to race. They posited that black female students performed better academically than their male counterparts and that they were almost solely responsible

for the positive data on black student success at the University.

Recommendations

In their review of the literature, Ender and Winston (1988) cited the use of student paraprofessionals as a way for institutions to increase student success. This study has documented the fact that more study is needed to determine reasons for success of participants in the MAP program.

Even though the results of this study determined that MAP participants performed better academically and were retained at higher rates than nonparticipants, questions still persist regarding the extent to which the intervening variables may have impacted these higher rates. To answer some of these questions, the following additional research is recommended:

1) Conduct a better controlled study to isolate reasons for success by statistically controlling or matching the intervening variables to the dependent measures. Identify and evaluate other independent or intervening variables to predict outcomes and ensure that differences between groups are equal. Such a study could provide more insight on what variables are best predictors for academic performance, retention, and graduation.

2) Conduct a follow-up study on the MAP program to include the four years the program has been in operation and to use graduation rates as another dependent variable.

This study could compare the factors relating to academic performance, retention, and graduation for MAP participants and nonparticipants.

3) Obtain survey and/or interview data from each class and combine these data with the computer data files already available from the institution. This will serve to increase the number and type of factors investigated as well as to provide more illumination on the data employed in the study.

4) Conduct further research on the influence of family background on the academic success of black students. William Boyd (1982) contends that black students whose families have high incomes and are college-educated tend to be more academically successful. It is understood that many black students need financial assistance and external support in order to be achieve academic success. However, the opportunity of black students to receive sincere encouragement, advice, and understanding may be as beneficial to them as any other external factors.

5) Conduct further experimental or ethnographic research to understand better which factors actually influence black students' academic achievement at predominantly white colleges and universities.

6) Conduct an analysis of the types of problems (academic, personal, social, cultural) which peer counselors face. It would be instructive to develop a measure of academic/personal/social/cultural problems of

freshmen and to conduct a comparative analysis to determine if those problems are being sufficiently addressed.

7) Conduct a study of the number of contact hours peer counselors give to freshmen and the nature and quality of the contact. Focus on the effect of same-sex and opposite-sex peer counselor/freshman relationships have on the number of contacts and the focus of those contacts. In addition to controlling for motivation, this approach could also provide better information on MAP participation, on the association between the number of contacts and other variables, and on the quality of the counseling relationship.

8) Examine racial differences in peer counseling models and compare differences in peer counseling to other counseling models.

Additional Considerations

If further study proves the value of the MAP program, the following additional considerations should be offered:

1) Concerted efforts should be made to involve more faculty and professional staff from the University to serve as role models and to reinforce social and academic integration. Increased involvement from faculty and professional staff could result in enhanced impact from the program such as improved acceptance by the faculty and more student enrollment in courses in the academic departments. Allen (1984) found that black students who are regular participants in black student organizations and activities,

who have positive faculty relations, and who evaluate campus support services positively are more likely to achieve academic success.

2) Require a semester-long course for peer counselors designed to teach basic counseling and referral skills. This should be a sophomore level course. Four additional half-day training and evaluation workshops/seminars per semester should be available to peer counselors on selected topics. The training and development of peer counselors should not stop at the beginning of the fall term during which they become advisors.

3) Additional support staff such as College Work Study students or graduate assistants should be hired and given responsibility to create and maintain a record-keeping system designed to provide information about the program when requested and to provide an ongoing tracking system for assessment and research. Other duties should include monitoring and supervising peer counselors.

4) Based on the results of the selection process ratings and recommendations, an established number of students should be chosen to participate in the program based on the projected size of the incoming black freshman class and the number of returning peer counselors. There should be an attempt to limit the number of freshmen assigned to each peer counselor to no more than four. The author believes that the effectiveness of the counseling process may be diminished when more than a five to one

ratio is established.

5) It is recommended that the University provide necessary resources (i.e., money, staff, facility) to allow an increase in the number of students without affecting the freshman-peer counselor ratio in the MAP program.

6) It is recommended that a MAP Alumni Association be developed and implemented. This group would be useful in providing positive role models and mentors for students in the program. They could provide ideas concerning the factors which encourage black students to be academically successful. They could also provide resources for additional financial support and information about job and career opportunities.

7) Black programs need adequate financial assistance in order to exist and positively impact black students at predominantly white institutions. University officials must be encouraged to locate monies which could be used to enhance the support of black programs and black students. A means of accomplishing this goal would be for the University to encourage the Development Officer to solicit monies specifically earmarked to meet the needs of the black students.

8) Because the peer counselors are volunteers, various incentives should be utilized to insure quality in the counseling process and to provide ways of rewarding peer counselors for a job well-done. These incentives should include: dinners, social activities, on-campus

housing assignments, and awards and commendations.

Summary

The purpose of this study was to evaluate the efficacy of the MAP program as a program to enhance student academic performance and retention. The MAP program was associated with increased GPA and retention rates in this study. MAP participation was a factor despite the differences in group characteristics. The multiple regression analysis compensated for the differences that are attributed to PGPA, sex and University 101 participation. Accordingly, the University of South Carolina and other institutions should take note of the MAP program's potential educational value and devote resources to further evaluate and assess this program.

Thus, it appears that the MAP program may be a successful way to meet the developmental needs of entering black students. However, the program's apparent success may be due more to the characteristics of the students it attracts rather than program factors. The identification and assessment of the causes for the positive association between MAP participation and increased GPA and retention is a task that merits further consideration and research.

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